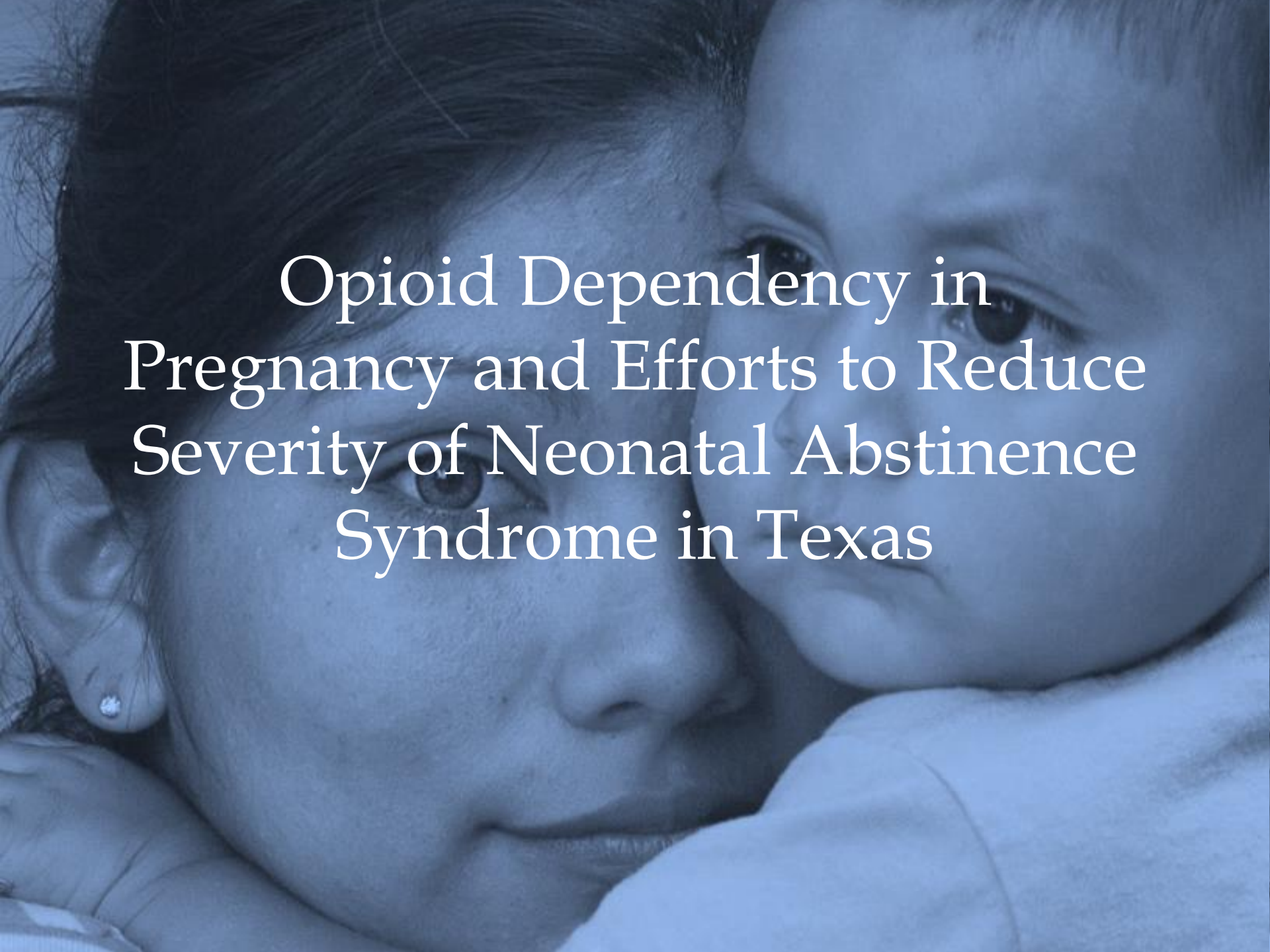


Opioid Dependency in Pregnancy and Efforts to Reduce Severity of Neonatal Abstinence Syndrome in Texas

Learning Objectives

- Become familiar with how the opioid epidemic is impacting Texas women
- Become familiar with Neonatal Abstinence Syndrome and prevalence in Texas
- Become familiar with how communities can implement models of care shown to improve outcomes for opioid dependent women and their families
- Become familiar efforts in Texas to reduce the impact of NAS and maternal mortality

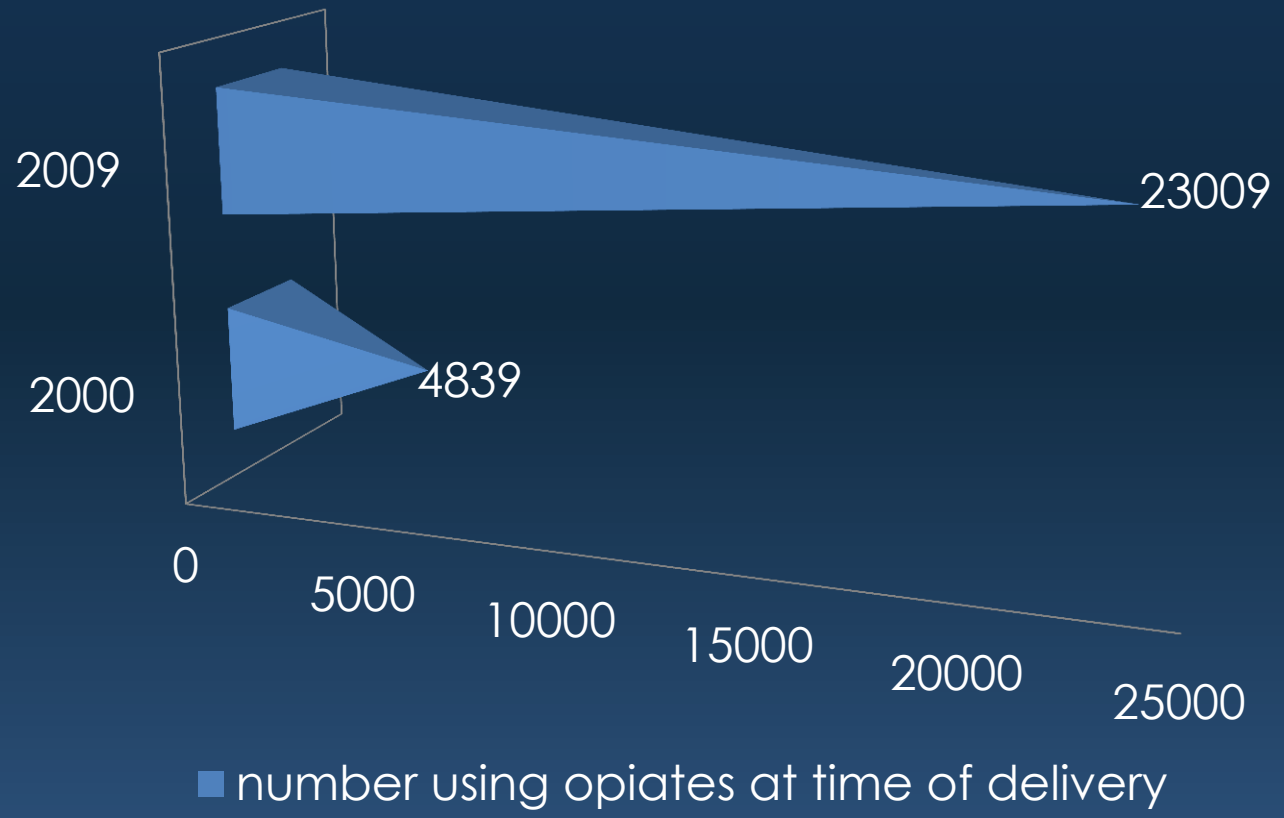
Brief Overview of Substance Use Disorders

- Addiction affects one in every three households in America
- 90% of people in need of addiction treatment don't receive it
- Addiction is a chronic disease similar to other chronic diseases such as type II diabetes, cancer, and cardiovascular disease.
- Studies indicate 90% of individuals with substance use disorders have experienced one or more traumatic event and 33% have been diagnosed with PTSD https://www.drugabuse.gov/videos/dr-nora-volkow-addiction-disease-free-will

Opioid Use Among Women

- Women are more likely to have chronic pain, be prescribed prescription painkillers, at higher doses and for longer time periods than are men
- Women may become dependent on prescription painkillers more quickly than men
- Women may be more likely than men to engage in “doctor shopping” (obtaining prescriptions from multiple prescribers)

In 2009, there were more than 23,000 pregnant women using opiates when they delivered, up **475%** from 2000.



Christine S. Moyer, amednews staff. *Posted May 21, 2012 .*
Published by the American Medical Association

Opioid Use Among Pregnant Texas Women

- Opioid use among pregnant women has increased in Texas, and approximately 1 out of 4 pregnant women admitted to DSHS-funded treatment services are dependent on opioids.

What is NAS?

- Withdrawal that follows in-utero substance exposures
  - 60-94% of opioid exposed infants

Neurological	Gastrointestinal	Autonomic
• Irritability • Increased wakefulness • High-pitched cry • Tremor • Increased muscle tone • Hyperactive deep tendon reflexes • Frequent yawning • Sneezing • Seizures	• Vomiting • Diarrhea • Dehydration • Poor weight gain • Poor feeding • Uncoordinated and constant sucking	• Diaphoresis (profuse sweating) • Nasal stuffiness • Fever • Mottling • Temperature instability • Piloerection (goose bumps) • Mild elevations in respiratory rate and blood pressure

National NAS Trends

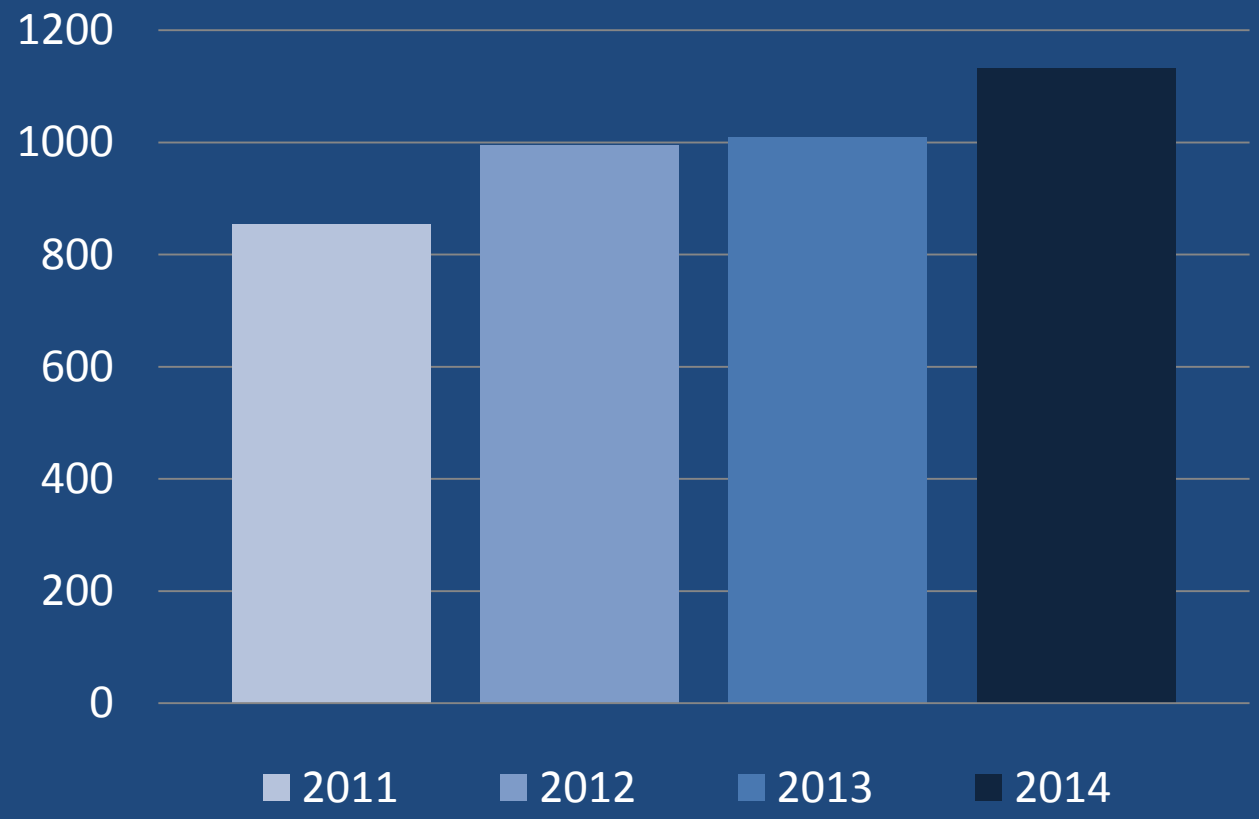
- Parallel rising trends between prescription opioid misuse and incidences of NAS
- U.S. rates of NAS ***increased threefold*** between 2000 and 2009; one child now being born every 25 minutes with NAS
- Prenatal opioid exposure is a risk factor for but ***not a predictor of NAS***
  - Neither daily opioid dose nor total dose throughout the pregnancy predicts incidences or severity of NAS
  - Wide variability exists among institutions in the diagnosis of NAS in opioid-exposed populations
- With the exception of alcohol (FASD), ***no good evidence exists*** to substantiate claims that infants who experience in-utero substance exposure will have poor long-term outcomes

Cost of NAS

- Associated healthcare costs have risen from $190M per year in 2000 to $1.5B in 2012 as a result of increasing incidences
- In 2009, average hospital expenses for infants with NAS were estimated at $53,400 when compared to $9,500 for all other births
- High cost is primarily due to a lengthy hospital stay and the need for extensive nursing care
- Average hospital stay for newborns with NAS is approximately 16 days when compared to 3 days for all other births
- Nationally, 78% of all NAS healthcare costs are paid for by state Medicaid programs

Nations Health. 2015;45(5):e26

Texas Medicaid NAS Births



2014 Texas Medicaid NAS Births Data

- Average length of hospital stay was 21 days
- Average cost for hospital stay was $32,000
- Counties with highest incidence:
  - Bexar 26%
  - Dallas 14%
  - Tarrant 10%
  - Harris 7%
  - Nueces 7%

Texas Medicaid LOS and Costs

- Length of NAS hospital stay in Texas averages 21 days compared to the national average of 16 days. The national average length of hospital stay for all other births is 3 days.
- Average cost for NAS hospital stay was $32,000, nearly 10 times the cost of an average newborn hospital stay.

Management of NAS

- 1st Line=Non-pharmacological soothing techniques
  - Quiet environment, minimal stimulation, dimmed lighting, small frequent feedings, skin-to-skin (kangaroo care), swaddling, ***breastfeeding***, rooming-in
  - Many of the same interventions used with pre-terms have been adapted

Management of NAS

- 2nd Line=Pharmacologic management
- Most clinicians use some form of opioid
  - Diluted Tincture of Opium (DTO)-contains alcohol
  - ***Morphine Neonatal Oral Solution (0.4mg/ml)***
    - Predictable half-life and ease of administration
  - Methadone
    - Long half-life but can be challenging to titrate
  - Buprenorphine
    - Long predictable half-life, showing promise but limited data
- Adjunct medications
    - Clonidine and phenobarbital
- Adherence to a standardized protocol is recommended

Grim, et al. 2013

Management of Maternal Opioid Use Disorder

- MAT, NOT DETOX
  - MAT is the use of medications, in combination with counseling and behavioral therapies, to provide a whole-patient approach to the treatment of substance use disorders.
  - Both ACOG and ASAM recommend against medically supervised withdrawal from heroin or other opioid drugs during pregnancy because of the high relapse rate and the increased risk of fetal distress and death.
  - Medically unsupervised withdrawal is contra-indicated.

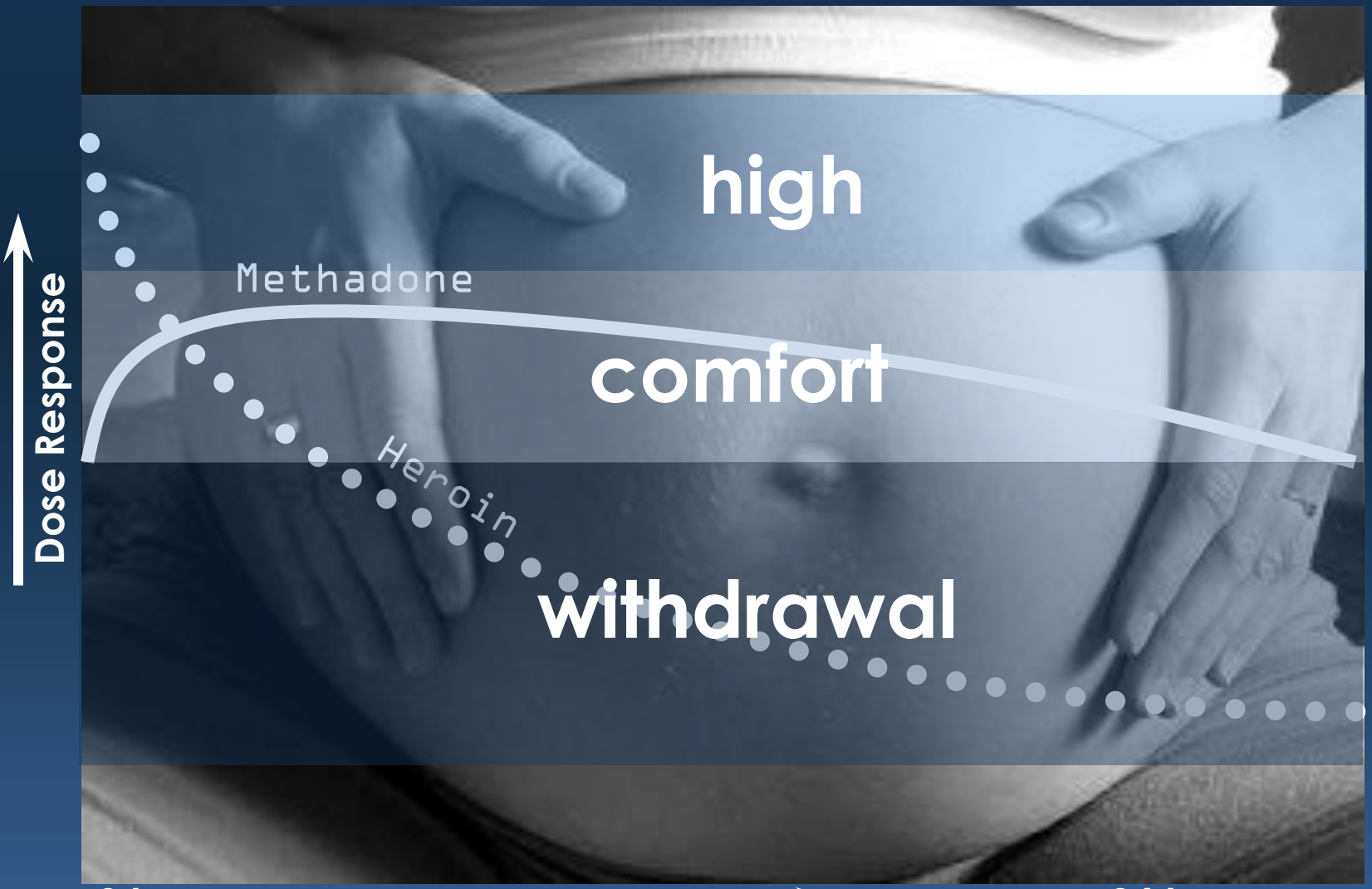
Integrated Models of Care

- Integrated treatment models (those that combine on-site pregnancy, parenting and child-related services with addiction services) are essential for addressing the many needs of pregnant and parenting women with SUD's
- These programs ideally combine Medication Assisted Treatment (MAT) with additional services to assist pregnant women with SUD's

Medication Assisted Treatment (MAT)

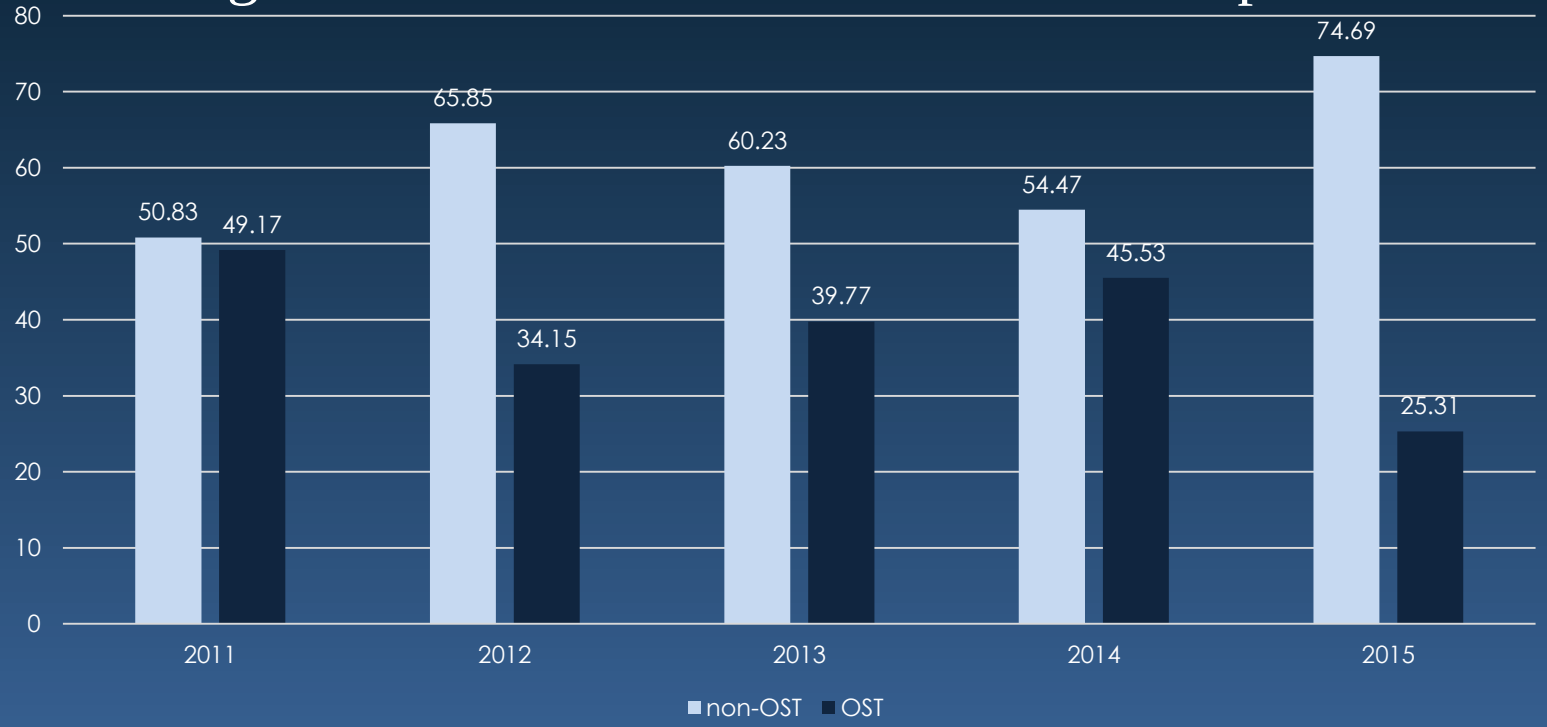
- Regular administration of ***methadone*** or buprenorphine should not result in intoxication.
- Provides a more consistent blood level reducing risk of repeated fluctuations experienced with short-acting opioids such as heroin.
- Essential component of managing opioid dependency in pregnancy as abrupt withdrawal or detox from opioids results in higher incidences of fetal death.
- Tapering of MAT dosing during pregnancy is associated with maternal relapse into addiction.
- More than 50 years of research supports the benefits and safety of methadone for opioid dependent, pregnant women.

Methadone protects the fetus from risk of repeated withdrawal



Provide Opioid Treatment Services

- Opioid agonist treatment is the standard of care for opioid dependent pregnant women.
- There is always room for improvement in referral to Opioid Treatment.
- The HHS enterprise paid opioid dependent claims has averaged about 40% of women enrolled in Opioid Treatment.



Stigma & Maternal Substance Use Disorders

- Stigma affects all opioid-dependent patients to some degree, but prejudice toward those who become pregnant is especially high.
- Pregnant women are reluctant to seek prenatal care due to fear of losing custody of the infant or other children
- Healthcare provider attitudes toward substance addicted mothers are often value laden with blame directed toward the mother

Barriers to women seeking treatment

©kichigin 19/Dollar Photo Club

- Personal barriers- the woman's feelings and life situation
- Interpersonal barriers -family, partner, peer relationships
- Societal barriers -broader community and societal attitudes
- Program/structural barriers - treatment services and structure

Understanding the Patient's Trauma

- Studies indicate 90% of individuals with substance use disorders have experienced one or more traumatic event and 33% have been diagnosed with PTSD
- Survivors often use substances to manage the emotional distress that follows from trauma
- and they become more vulnerable to re-victimization through risks associated with addiction-related behavior

Maternal/Infant Attachment

Potential Barriers

- Re-traumatization
- Physical distance
- Emotional distance
- Emotions such as guilt, shame, fear, feelings of inadequacy, etc.
- Challenging symptoms stemming from prenatal substance exposure
- Lack of experience/education on parenting

Reduce/Eliminate Barriers

- Use a trauma-informed approach to care.
- Encourage breastfeeding, kangaroo care, rooming-in, and women & children's programs when possible.
- Assist mother in seeking treatment for mental health and substance use disorder issues as early as possible.
- Use a strengths-based approach and reduce intended or unintended bias.
- Provide education and referrals that provide information/services on what to expect and how to care for substance-exposed children.
- Refer to parent educator, encourage bonding while pregnant

The "Mommies" Program: a Model of Integrated Care

The Center for Healthcare Services: Methadone Clinic

University Health System (UHS): County Hospital

The U.T. Health Science Center & Department of State Health Services

History

- 2007 – Project Carino (“cherish” and “tenderness”) was created at the CHCS through funding by a 5 year, $2.5M Substance Abuse and Mental Health Services Administration [SAMHSA] grant
- 2013 – Program was renamed the *Mommies Program* when UHS assumed funding for the program and partnered with CHCS
- To date – Approximately 1,000 pregnant and parenting women and their families have been served by this program

BH Services

- Childcare
- Transportation
- Credentialed staff
  - Outreach staff
  - Case manager
  - Patient navigator
  - Counselors
- EB Curriculum addressing trauma
- EB Curriculum addressing parenting
- Life skills training
- Sexual Health

The “Mommies”: A Healthcare Environment Culture Change

- Collaboration with UHS
- In-services conducted for UHS staff on reducing stigma
- “Mommies” are treated like any other patient with a chronic healthcare need such as diabetes or hypertension.
- During encounters, are referred to as “one of our Mommies” to reduce stigmatization

Involvement of University Hospital Staff

- University hospital staff provide educational classes at the Center for the Mommies
  - Provides the women with an opportunity to become familiar with the hospital staff
- The curriculum consists of 13 classes on a variety of topics

Written permission obtained for use of photographs.

Effective Curriculum

- Educational Sessions
  - Nutrition
  - Aromatherapy and Reflexology
  - Tobacco Use in Pregnancy
  - Childbirth Preparation
  - Family Planning
  - Intimate Partner Violence
  - Infant Massage
  - Caring for Your Newborn
  - Infant CPR and the Choking Infant
- Educational Sessions (cont.)
  - Methadone Withdrawal in Infants and Neonatal Abstinence Syndrome
  - Breastfeeding
  - Child Safety Seat 101
  - Home Safety
  - Shaken Baby Syndrome
  - Safe Sleep
  - Developmental Milestones and Age Appropriate Discipline
  - Social Services and CPS Liaison

Results of Implementing “Mommies”

- The result of reducing stigma; creating a family focused NICU environment; providing education and support to mothers; and developing a therapeutic relationship prior to delivery has shown to reduce NICU lengths of stay by 33% and 87% of newborns go home with Mommies participants.
- In addition, many newborns delivered by mothers in this program have symptoms that do not require hospitalization.
- Each year roughly 160-175 women and their children are served by the $175,000-$400,000 approximate annual cost it takes to operate the Mommies Program

Research Dr. Cleveland UTHSC

- 4 themes identified:
  - (a) understanding addiction,
  - (b) watching the infant withdraw,
  - (c) judging, and
  - (d) trusting the nurses.

  The participants felt there was a lack of understanding concerning addiction that was particularly noted when interacting with the nurses. They shared their feelings of guilt and shame when observing their infants withdrawing. The participants felt judged by the nurses for having used illicit drugs during pregnancy. Feeling judged interfered with the participants' ability to trust the nurses.

  New research to formalize standards of care in the NICU

  Include measuring salivary cortisol levels during Kangaroo Care.

Impact of Kangaroo Mother Care on stress and attachment

- Funded by the TX Department of State Health Services
- University Hospital in San Antonio
  - Monitoring measures of stress (including salivary cortisol levels) and attachment during sessions of kangaroo care over time
  - Applying for further funding (NIH) in the spring

Written consent provided for use of photos

Efforts to Reduce Incidence and Severity of NAS in Texas :

The Mommies program is collaborative model that has shown to reduce NICU lengths of stay by 33% . Rate of CPS removal for Mommies participants is 17%.

NAS Feasibility study on infants experiencing NAS and their mothers. The aim of this study is to build evidence for management strategies that can reduce stress in mothers and infants.

DSHS NAS Webpage and NAS Videos

- http://www.dshs.state.tx.us/sa/nas/
- Journeys of Hope: Mommies and Babies Overcoming NAS (Telly Award Recipient) https://www.youtube.com/watch?v=__EVg05zCDM&feature=youtu.be
- Stronger Together: NAS Soothing Techniques for Mommies and Babies https://www.youtube.com/watch?v=7IFLrd8zudo&feature=youtu.be

NAS Exceptional Item (EI) appropriated $11.2 million in General Revenue to DSHS over the course of the 2016-2017 biennium to fund new and existing services aimed at reducing severity and costs associated with NAS. This EI takes a multi-pronged approach to addressing NAS by:

- enhancing outreach to women at risk for having a substance exposed pregnancy
- increasing the availability of intervention and treatment services to pregnant and postpartum women to improve birth outcomes and prevent future prenatal exposure
- implementing specialized programs to reduce the severity of NAS and improve family preservation

NAS EI: Outreach

- $1.3 million will increase services to 1,111 women through targeted outreach efforts
  - Targeted outreach efforts (street, jails, specialty clinics) would enhance education and services to women at risk for having a child diagnosed with NAS. Oftentimes, women are misinformed about appropriate treatment options and consequently put themselves at greater risk for fetal and maternal morbidity and mortality.

NAS EI: Intervention

- $2.9 million to increase the number of women served through existing Pregnant and Postpartum Intervention (PPI) programs by 2,417
  - Existing PPI programs would be able to increase the number of women served potentially increasing compliance with prenatal care, well-child visits, and access to services.

NAS EI: Treatment

- $5 million will be used for 635 Substance Use Disorder (SUD) treatment OTS slots
  - Currently, there are not enough DSHS-funded OTS sites to serve pregnant opioid dependent women who need daily and oftentimes split-dosing (twice daily) medication dosing at the OTS site. While medications may be free for those DSHS and Medicaid eligible, costs and access to transportation may be limited creating barriers to treatment access. Increasing OTS sites, will allow more women to access necessary treatments that will reduce risk of fetal morbidity and fetal mortality.

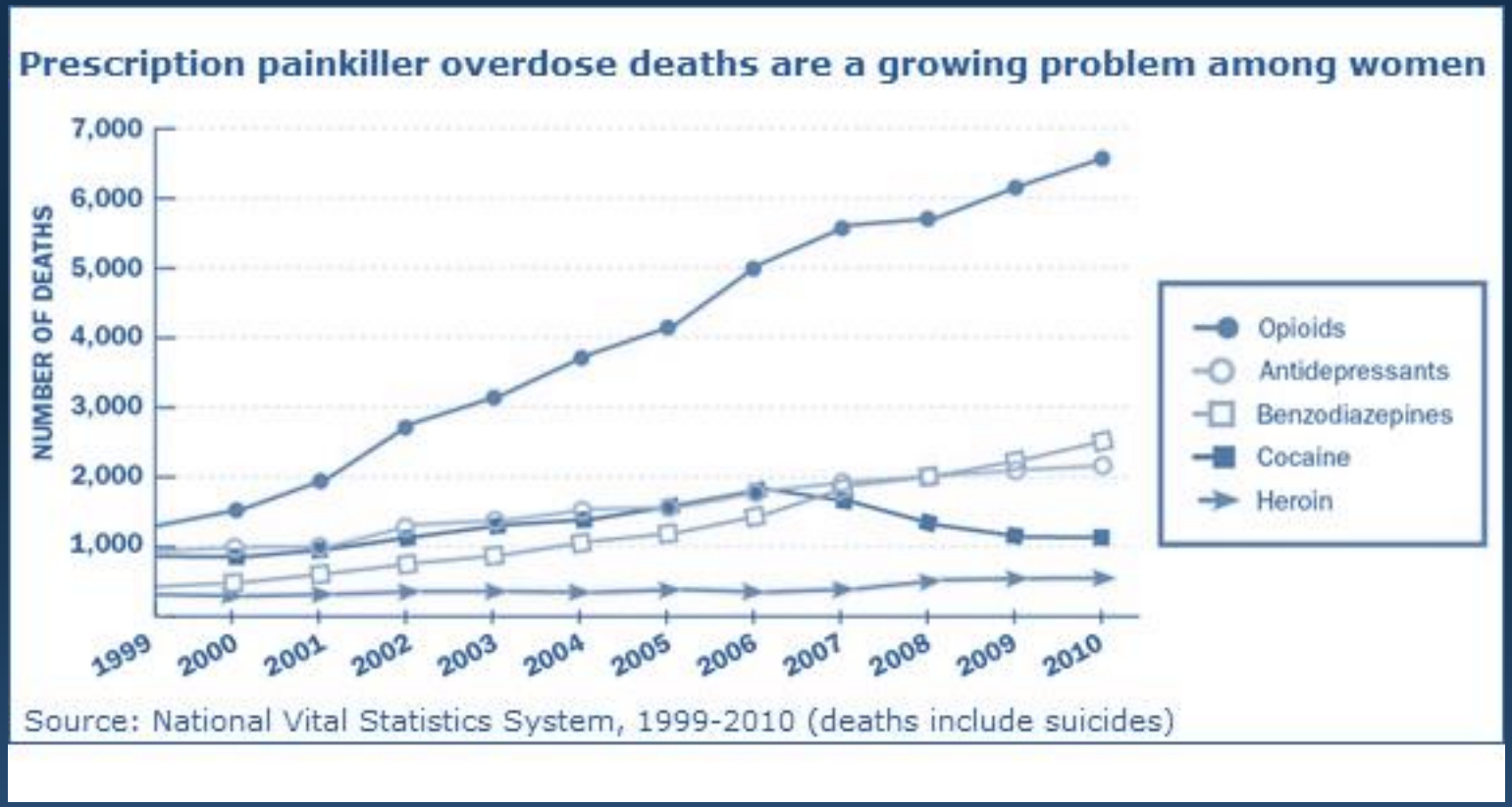
NAS EI: Specialized Programs

- $500,000 to expand the Mommies program to 560 families in the five counties with highest incidence and costs for NAS cases: Bexar, Dallas, Harris, Tarrant, and Nueces
  - The Mommies program is an inexpensive intervention that has reduced NICU lengths of stay by 33% and the rate of removal after Mommies participation is 17%. Replicating this model throughout the state will increase rates of family preservation, improve overall health, and reduce costs associated with NAS.
- $1.5 million will support a pregnancy stabilization pilot program for approximately 171 pregnant women across the state in need of stabilization and specialized services
  - Women experiencing barriers to accessing appropriate care can enter a residential program site where they can be immediately stabilized and offered comprehensive, specialized services. Without a centralized residential treatment program site, coordination of care must take place immediately in each community in order to reduce risk of fetal morbidity and fetal mortality. Currently, only a few communities are equipped to provide timely, comprehensive care.

Maternal Mortality

- Healthy Texas Babies Maternal Mortality and Morbidity Review
  - Drug overdose is the third leading cause of maternal mortality in Texas
- Providing overdose prevention education including how to access Naloxone (Narcan) is required by all DSHS-funded SUD treatment providers

Opioid Overdose Among Women



Additional Recommendations

- Ensure Correct Diagnosis
  - A gentle reminder that NAS diagnoses should ONLY be used for NAS. Do not use it for other conditions.
  - The new ICD-10-CM Diagnosis Code is P96.1: Neonatal withdrawal symptoms from maternal use of drugs of addiction.
  - Numerous scoring tools are available using Modified Finnegan Neonatal Abstinence Score Sheet: http://www.lkpz.nl/docs/lkpz_pdf_1310485469.pdf

Additional Recommendations

- Support Hospital Education
  - Online training for safe prescribing and opioid safety http://prescribetoprevent.org
  - Online training and mentorship for those with patients taking opioids http://pcssmat.org/education-training/online-modules
  - Currently providers can access the DSHS MHSA Mommies toolkit, an integrated approach to care, online and request technical assistance and in-person trainings http://www.dshs.state.tx.us/sa/nas
  - Look for upcoming Texas Health Steps modules that will provide continuing education credits.

ACOG
THE AMERICAN CONGRESS OF OBSTETRICIANS AND GYNECOLOGISTS

Women's Health Care Physicians

DOES NOT SUPPORT Healthy Outcomes for Mom & Baby	SUPPORTS Healthy Outcomes for Mom & Baby
Overtreatment of NAS in NICUs	Appropriate comfort care in low-stimuli environment and pharmacological therapy where indicated
Criminal penalties for women and doctors	Public health approaches focused on prevention and treatment
Mandatory urine testing	Screening dialogue/questionnaire with patient consent
Mandatory reporting to law enforcement or child protective services (CPS)	Statistical reporting to department of health or direct reporting to CPS only for actual indications of impaired parenting
Overreliance on fragmented PDMPs	Safe prescribing and initial check of PDMPs
Punitive drug treatment courts	Family-centered drug treatment programs
Restrictions on medication access and forced withdrawal	OAT with methadone or buprenorphine for women and protections for treating physicians
Misleading drug prescribing warnings	Evidence-based labeling of opioid medications
Anti-family, one-size-fits-all drug treatment programs	Family-centered, community-based, outpatient treatment
Coercive referrals for fertility control	Counseling on pregnancy planning, prevention and contraception
Losing sight of the real harms of alcohol and cigarette use during pregnancy	Continued focus on the greatest preventable health threats—alcohol and tobacco use during pregnancy

http://www.acog.org/-/media/Departments/Government-Relations-and-Outreach/NASToolkit.pdf?dmc=1&ts=20150326T1453435852

- Program involves physicians trained in addiction medicine signing up at www.pcssmat.org to serve as mentors to other physicians, such as primary care physicians, pediatricians, and obstetrician/gynecologists, who may deal with women's issues in addiction.
- PCSS MAT training modules, free CMEs
- http://pcssmat.org/wp-content/uploads/2015/03/ASAM-PCSSMAT-NAS-Module.-Finnegan.pdf

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